Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DONG-SEOG HAN

Appeal No. 1999-1857
Application No. 08/579,156

Heard: April 26, 2001

Before HAIRSTON, FLEMING, and DIXON, **Administrative Patent Judges**.
DIXON, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-16, which are all of the claims pending in this application. The examiner indicated in the answer that dependent claim 10 is directed to allowable subject matter. Accordingly, claims 1-9 and 11-16 remain before us on appeal.

We AFFIRM-IN-PART.

BACKGROUND

The appellant's invention relates to a dual HDTV/NTSC receiving method using symbol timing recovery and sync signal detection and apparatus thereof. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. A receiver for selectively receiving one of a HDTV television signal and a NTSC television signals coexisting in a plurality of television channels, the apparatus comprising:

tuning means for converting a desired one of said HDTV and said NTSC signals into an intermediate frequency signal;

sync detection means, coupled to receive said intermediate frequency signal output from said tuning means, for detecting a sync signal of the NTSC signal;

timing recovery means, coupled to receive the intermediate frequency signal output from said tuning means, for self-recovering symbol timing of an applied HDTV signal, and outputting a symbol timing lock signal and an analog-to-digital converted HDTV signal;

control means for judging whether a currently received television signal is said NTSC signal or said HDTV signal based on the sync detection result of said sync detection means and the symbol timing lock signal from said timing recovery means, and for outputting a control signal according to a respective determination result; and

tuning control means for initially controlling said tuning means so that the desired HDTV signal is received, and for subsequently controlling said tuning means on the basis of the respective signal selected by said control signal among said HDTV and NTSC signals output from said tuning means and said timing recovery means.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Citta	5,283,653	Feb. 1, 1994
Scarpa	5,388,127	Feb. 7, 1995

Claims 1-9 and 11-16 stand rejected under 35 U.S.C. § 103 as being unpatentable over Citta in view of Scarpa.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellant regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 13, mailed Feb. 3, 1999) for the examiner's reasoning in support of the rejections, and to the appellant's brief (Paper No. 11, filed Oct. 19, 1998) and reply brief (Paper No. 14, filed Apr. 5, 1999) for the appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by the appellant and the examiner. As a consequence of our review, we make the determinations which follow.

Appellant argues that the frequency control signal output by the timing recovery circuit in Scarpa is not related to the symbol timing lock signal. (See brief at page 6.)

Appellant presents argument directed to the specification and the disclosed aspects of the signal, but appellant provides no support for this argument in the language of claim 1. Therefore, this argument is not persuasive.

Appellant argues that the examiner mischaracterizes appellant's arguments with respect to the symbol timing lock signal and merely discusses it with respect to the bit timing information as taught by Scarpa. (See brief at page 7.) We disagree with appellant. Appellant provides no support for the distinction between the lock signal and any bit timing signals. Therefore, this argument is not persuasive.

Appellant argues that neither reference teaches nor suggests detecting a HDTV signal based upon the result of symbol timing recovery. (See brief at page 8.) We disagree with appellant because Citta teaches that tuner 26 enables the respective processor and that processor synthesizes the frequency of the HDTV or NTSC. (See columns 2-3.) With respect to the use of symbol recovery as HDTV detection, the presence of an output signal on the timing recovery of Scarpa would have been a detection of the HDTV signal. The language of claim 1 does not qualify the use of the signals. The presence of the signals would be sufficient to meet the language of claim 1. Therefore, it would have been readily apparent to skilled artisans that the presence of a signal from the symbol timing recovery in combination with the synchronization would have been a rationale for enabling the respective processing of the signals. (See generally answer at pages 7-8.) Therefore, this argument is not persuasive.

Appellant argues that the combination does not teach or suggest the invention as claimed. (See brief at page 9.) We disagree with appellant. Appellant argues that Citta does not disclose the means for judging based upon the symbol timing lock signal. (See brief at pages 9-10.) We agree with appellant, but the examiner relies upon the teachings of Scarpa to teach a symbol timing lock signal and the combination of references to teach/suggest the use of a symbol timing lock in determining the presence of the appropriate processing. Therefore, this argument is not persuasive.

Appellant argues that the "claimed symbol timing lock signal does more than generate symbol bit timing information based upon a sampling differential error, and that the claimed symbol timing lock signal is fundamentally different from the symbol bit timing information generated by Scarpa." (See reply brief at page 2.) We disagree with appellant. Appellant provides no express support for this argument in the language of claim 1. Therefore, this argument is not persuasive. Appellant argues that the symbol timing lock signal is generated based upon an analysis of past values of timing error or an analysis of past values of the output filter. (See reply brief at page 2.) Again, appellant provides no support in the express language of claim 1 to support this argument. Therefore, this argument is not persuasive. Appellant cites to U.S. Patent 5,719,867 to Borazjani for support of the term "symbol timing lock signal." (See reply brief at page 2.) While this patent mentions the term, it does not define it as a standard term in the art. Furthermore, this patent is not directed to the same field of endeavor of

HDTV and NTSC signal processing. Therefore, we find no such support for appellant's assertion that the term should be defined as appellant argues. Appellant argues that the symbol timing lock signal can indicate when symbol timing is locked and can be used to indicate the presence of HDTV signal in a received signal. (See reply brief at page 2.) Again, appellant provides no express support in the language of claim 1 to support this argument. Therefore, this argument is not persuasive. Appellant argues that the bit timing of Scarpa is not based on past values and cannot yield a symbol timing lock signal. (See reply brief at page 2.) Again, appellant provides no express support in the language of claim 1 to support this argument. Therefore, this argument is not persuasive.

We note that appellant has drafted the limitation reciting the symbol timing recovery as a means plus function limitation, but has not identified a corresponding structure in the specification associated with the means. (See reply brief at page 3.) We assume this is because the specification is basically disclosed in a functional level. Therefore, appellant's argument directed thereto is not persuasive.

Appellant argues that the symbol timing lock signal does more than maintain a desired sampling rate. (See reply brief at page 3.) Appellant argues that the symbol timing lock signal analyzes past values of the timing error, or past values of the output of the loop filter, to determine whether or not lock has been achieved. (See reply brief at page 3.) We do not appreciate from appellant's argument how the signal "analyzes"

and "determine[s]" and how the system would do this to produce a lock signal. Therefore, this argument is not persuasive.

Appellant argues that the examiner's analysis is deficient. We disagree. Rather, appellant's arguments clearly go into much greater detail that the language of claim 1 supports. Therefore, appellant's arguments are not supported by the express language of the claims and are not persuasive. Since appellant has not rebutted the examiner's rejection, we will sustain the rejection of claim 1. Since appellant has not separately argued the rejections of claims 2-5, 8, 9, and 12-15, we will similarly sustain the rejection of these claims.

With respect to claim 6, appellant argues that the operational characteristics of the loop filter in claim 6 are not taught by the combination of Citta and Scarpa. (See brief at page 11 and reply brief at pages 4-5.) We agree with appellant. The examiner goes through a lengthy analysis of the characteristics but does not arrive at the same equations. Furthermore, the examiner does not provide a convincing line of reasoning why one skilled in the art would have desired the use of the characteristics, as claimed. Therefore, the examiner's rationale is not persuasive, and we cannot sustain the rejection of dependent claim 6.

With respect to claim 7, appellant relies upon the argument that the combination of Citta and Scarpa does not teach or suggest the symbol timing lock signal as argued with respect to claim 1. (See reply brief at page 6 and brief at page 12.) This argument

is not persuasive, as with respect to claim 1. Furthermore, Scarpa does discuss that the average error is zero and the phase is locked with the pulse train that comprises the digitally converted signal being received. (See Scarpa at col. 8, lines 51-63.) Scarpa also discloses the use of an average frequency error to control the VCXO 34 and to change the frequency until the error is zero. (See Scarpa at col. 9, lines 24-36.) Clearly, Scarpa desires to sample at the optimum time. Therefore, this argument is not persuasive.

With respect to claims 11 and 16, appellant argues that the references do not teach displaying a message if no signal is received. (See brief at page 14 and reply brief at page 6.) The examiner maintains that the setting of bits in memory indicating the evaluation of the presence or absence of an HDTV or NTSC signal corresponds to the display means and step of displaying. While the examiner appears to stretch the recordation of the state of the presence of the signals, we do agree with the examiner that the mere display of a recorded status would have been obvious to skilled artisans at the time of the invention, and we will sustain the rejection of claims 11 and 16 which are grouped together.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1-5, 7-9, and 11-16 under 35 U.S.C. § 103 is affirmed, and the decision of the examiner to reject claim 6 under 35 U.S.C. § 103 is reversed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED-IN-PART

KENNETH W. HAIRSTON Administrative Patent Judge	)
MICHAEL R. FLEMING Administrative Patent Judge	) BOARD OF PATENT) APPEALS) AND) INTERFERENCES
JOSEPH L. DIXON Administrative Patent Judge	)

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